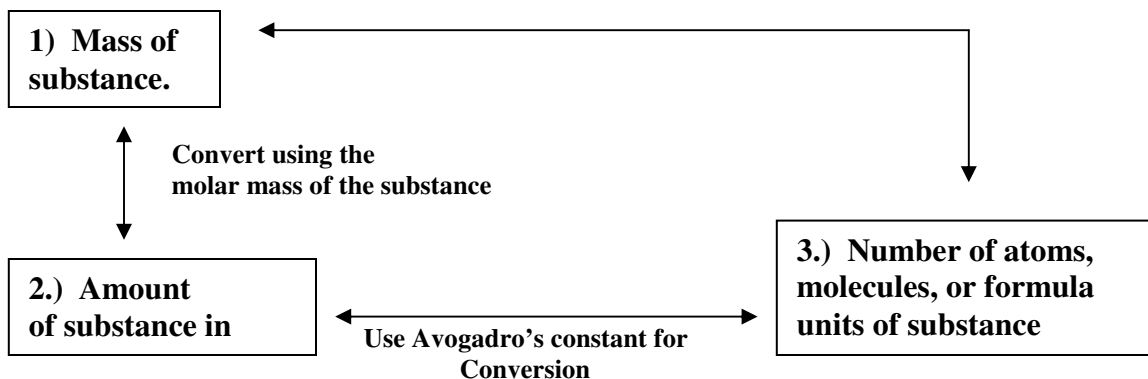


General Plan for converting Mass, Amount, and Numbers of Particles.



MASS ⇌ MOLES CONVERSIONS	
Moles to Mass	Mass to Moles
$\text{Moles} \cdot \frac{\text{grams}}{1 \text{ mol}} = \text{grams}$ <p style="text-align: center;">↑ molar mass</p>	$\text{Grams} \cdot \frac{1 \text{ mol}}{\text{grams}} = \text{moles}$ <p style="text-align: center;">↑ 1/molar mass</p>

1. Calculate the amount in moles in each of the following quantities:
 A. 1.33×10^{24} atoms of Iodine.

B. 8.66×10^{21} atoms of Palladium

2. Calculate the number of atoms in each of the following masses:
 A. 18.2 g of Aluminum

B. 169.55 g of Lanthanum

Calculate the mass of the following numbers of atoms:

A. 6.022×10^{24} atoms of Gold.

B. 6.25×10^{21} atoms of Platinum.

4. Calculate the number of moles in each of the following masses:

A. 302 g of Sodium Chloride, NaCl (Table salt)

B. 0.669 g of Sodium Fluoride, NaF (Active ingredient in toothpaste)

5. Determine the mass of each of the following amounts:

A. 1.996 mol of NH_3

B. 9.55 mol barium chloride, BaCl_2

6. What is the average atomic mass of Uranium? Uranium-234 (234.040 947 amu, 0.005 %), Uranium-235 (235.043 927 amu, 0.720 %), Uranium-238 (238.050 784, 99.275%)